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PRACTICAL HINTS CONCERNING ARISTOTYPES.

AT the present time one of the leading problems with the professional photographer is the manipulation of the various so-called aristo papers, which have lately come into favor throughout the country. The name aristotype, from the Greek *aristos* best, and *tupos* type, was given to this peculiar paper by Dr. Liesegang, of Dusseldorf, Germany, it being a modification of the process first introduced by G. Wharton Simpson in the year 1865, which became known as the "Simpsontype." At the present time these "aristo" papers consist of two kinds, viz., the original or older type, where the paper is coated with a collodion emulsion, which holds the silver salts in suspension,—strictly speaking, this is a collodio-citro-chloride paper.

The more modern type, and which it may be said, forms the great bulk of aristo paper now placed in the market, is coated with a gelatine-chloride emulsion, a difference which should be carefully noted by all workers, as certain manipulations which give beautiful results with the former type of paper almost instantly destroy the latter.

Of late we have had considerable inquiry from users of these papers as to the method for obtaining the best results. Then again we are in receipt of letters condemning the various emulsion papers, while the same mail perhaps brings us from other

parties specimen prints upon the identical paper to show what exquisite results can be obtained upon an emulsion paper.

As there seems to be so wide a diversity of opinion upon this class of papers, and in view of the fact that the universal feeling among professional photographers is to avail themselves of the exquisite results attainable upon aristo papers, provided that the effects would be as certain as with the ordinary albumen paper, we have written to four of the leading makers of emulsion papers, asking them for the formula and method of manipulation which had in their own experience given the best results with their special make of papers. These replies we now present to our readers in the order in which they were received.

Whether or not emulsion papers will supersede those coated with albumen is, as yet, a question hard to answer, but it certainly seems as if a radical change in the production of photographic prints were imminent, and judging from the photographic show-case it looks as if the inclination of both public and photo-artist leans strongly in favor of these collodio-chloride and gelatine-chloride papers, to the detriment of the familiar albumen print.

Another great point claimed in favor of the aristotype, exclusive of more beautiful results, is the simplicity of manipulation, as the prints can either be fixed and toned separately, same as an ordinary albumen print, or else toned and fixed by a single operation, the former method, however, being the most preferable for the professional.

What faults and shortcomings there may be in the aristo papers now upon the market, will without doubt soon be corrected and overcome, as the rivalry between the various makers for the control of the trade will surely give us a perfect paper in the near future. Whether this will prove a combination of our two present rival processes, or an entirely new emulsion, time alone will tell.

Among the curiosities in literature we note "Modern Vienna Grave Monuments,"—the artistic embellishments of Vienna burial grounds, with an introduction by Dr. Albert Ilg, Vienna, 1891. An edition de luxe, consisting of thirty photogravures.

HOT WATER AND AMERICAN "ARISTO."*

Written expressly for the AMERICAN JOURNAL OF PHOTOGRAPHY.

BY C. S. ABBOTT.

THE discovery of a hot water treatment for American "Aristo" paper has eliminated much of the time formerly taken in manipulation, and has also reduced the cost of the finished print very materially. For the past three weeks this treatment has been in practical use in the largest galleries in Chicago, and has proved a brilliant success. Prior to this hot water treatment "Aristo" prints required a first washing, then softening in an alcohol bath, washed several times, toned and fixed. Now, the prints are not handled or touched after placing them in the first wash until they are toned, requiring no softening solution. The latest method approved by the leading galleries is as follows:

Directions.—Water to be used to feel decidedly hot to the touch, but not so warm as to be uncomfortable to the hand.

First, a large shallow smooth-bottom tray is washed out with hot water. This cleans and warms the tray. Then a little warm water, just enough to saturate or thoroughly dampen the entire batch of prints, is poured into the tray. The prints are taken one at a time, pressed flatly down on the bottom of the tray, one overlapping the other an inch, or so much as prints are ordinarily placed on the pasting glass. Each print as it is put in is patted down until it sticks flat to the bottom of the tray, or to the print under it, which it will readily do if too much water is not put in the tray. When the prints are all in, and are sticking flat and damp to the bottom of the tray, they are allowed to remain in this condition five minutes. The tray is then inclined, and the water

* It is but just to say that the theory for the use of hot water for papers of the collodio-chloride type is due to A. W. Clark, of St. Louis, who was the first to suggest, about a year ago, hot water as a cure for blisters in albumen paper. But one would here again emphasize that where hot water works beneficial with collodio-chloride papers, such as the American aristo paper, it would, if brought in contact, at once destroy any gelatine-emulsion paper, such as the Omega, Alpha, New York Aristo, etc.—ED. AMERICAN JOURNAL OF PHOTOGRAPHY.

pressed thoroughly out of the prints. Then enough hot water is put in to well cover the prints, and the tray is gently rocked so as to give the water a chance at the prints, although they are not allowed to swim on top of the water. After five minutes this water is changed, and this washing repeated three times, making five hot water baths in all, of five minuets each. When each water is poured off, the prints are pressed flat with hand to remove all water possible from them. When water is poured in, it is done at one corner of tray, not directly on to prints. The prints should not be separated or handled over from the time they are put in at first washing until they are taken out of the cold bath to tone.

Upon pouring off the fifth hot water, cold water is now admitted to the tray, and they are allowed to remain in it until they are taken out to tone. Any good albumen bath will make a superior tone on "Aristo," but it must be understood that not half the gold and alkali is required to the same amount of water as is used with albumen.

A liberal bath as to volume should be used, and the speed of the bath not be faster than eight minutes. The bath should always test as near neutral as possible, and never more than very slightly alkaline. A decidedly alkaline bath makes muddy tones. As the prints are taken from the toning bath they are thrown into a tray of cold water, made decidedly acid to the taste by a few drops of acetic acid. They are now fixed in a hypo bath much weaker than that used for albumen. Twelve hydrometer test is sufficient, or about one ounce of a saturated solution of hypo to every ten ounces of water. It is important that this fixing bath should have sufficient bulk for the number of prints to be fixed, and should contain not less than sixteen pints of bath for every hundred prints, and then should not be used again. One hour in a tank of running water that siphons completely off, is sufficient for the final washing, or six or eight changes of water when prints are separated by hand. The mounting does not differ from albumen, except that a little heavier paste is used of half flour and half starch. The prints should be rubbed down on to the mounts heavily between clean blotters and with a squegee roller.

The spotting color for "Aristo" prints should be mixed with the white of egg to prevent coming off in the burnishing.

As may be seen from the above, the manipulation is very similar to the albumen process, the only essential difference being the manner in which the prints are first dampened, and the use of the hot water.

Jamestown, N. Y.

WORKING OMEGA.

BY C. E. HOPKINS.

Written expressly for the AMERICAN JOURNAL OF PHOTOGRAPHY.

USE negatives of ordinary strength. Print about the same as on albumen paper. Wash prints face down in cold water through several changes until all free silver is removed, which is not complete until water remains clean, showing no milkiness Soft water is preferable.

Prepare the following solutions:

No. 1.—Chloride of Gold . . . . . 15 grains.
Water . . . . . 15 oz.

No. 2.—Borax—saturated solution for toning bath.
Water . . . . . 20 oz.

No. 1 . . . . . 1 oz.
No. 2—sufficient to neutralize, testing with litmus paper.

As each print reaches the desired tone place in salt water, until all are toned, rinse and fix in the following for twenty minutes:

Water . . . . . 1 gallon.
Powdered Borax . . . . . ½ oz.
Hyposulphite of Soda . . . . . 8 oz.
Powdered Alum . . . . . 2 oz.

Use hot water to insure perfect solution.

This bath must be made two days before using, so as to become clear. The best way is to make up large quantities, as it will keep. Do not try to use a plain fixing bath, as it will soften the

film. After prints are fixed, they must be washed thoroughly; the best way to do this is to change from tray to tray, one print at a time. Lift prints from the water on to a glass, drain and mount as you would albumen paper, using good stiff paste.

When sufficiently dry they may be retouched aud burnished in the ordinary way, using castile soap or any good lubricator.

Notes.—Handle prints with face down in all solutions, and *keep them moving.* The *action* of the toning *must* be slow. Do not put too many prints in the toning bath at once. *Do not use warm water.* Avoid touching surface of paper with fingers before it is fixed. Do not use *metal trays* in any part of the process, or black spots may appear. If the burnisher is too hot it will turn prints red.

A milkiness or whitish appearance may be the result of insufficient washing or too strong toning bath. Red spots or streaks are caused by lack of proper manipulation when toning.

If prints are damp when burnished they are liable to have a grainish appearance. Softening of the film may be overcome by first soaking the prints about five minutes in weak alum water, use 1 to 2 oz. of alum to a gallon of water, but the alum must be previously dissolved.

Notice may be taken that the alum in proportion to the hypo has been cut down. I find that this amount thoroughly hardens the film, and at the same time a softer print is produced, the greater amount of alum producing harshness and a bleaching effect. It is also advisable not to use over one ounce of borax to the gallon of water. The ratio of hypo and water is much less in the above than is usually considered necessary for albumen paper. I have found that when using the regular bath of 1 to 10 the hypo continues the toning, giving it a bleaching effect.

The above bath produces pure whites and best results for all classes of work. The combined bath when used with care gives good results for ordinary work, but cannot be relied upon so well for fine whites. On account of its ease in working it is a favorite with many professionals as well as amateurs.

CHLORO-CITRO, OR ARISTOTYPE PAPER.

DR. LEO BAEKELAND.

Written expressly for the AMERICAN JOURNAL OF PHOTOGRAPHY.

THIS paper was first manufactured commercially in Germany, by Obernetter (Munich), Stolze (Berlin), and Liesegang, (Dusseldorf).

The growth of its use has been slow but gradual. As an amateur I was one of the first to adopt it, as prints made on this paper show great superiority over albumen prints. It gives details which no other printing method can bring out, and the prints are more brilliant and show more gradation of tone than those made by any other process.

The light-sensitive medium, in aristotype paper, is a mixture (or perhaps a compound) of chloride of silver and citrate of silver, which is held on the surface by means of gelatine or gun-cotton, according to the way the paper is manufactured. As we have gelatine and collodion aristotype papers, and both kinds are now manufactured on a large scale in this country. So far as my experience goes, I can say that the domestic article shows a marked superiority over the foreign brands.

The price, too, is getting lower every day, and is actually cheaper than ready sensitized albumen paper; indeed, if we consider all the advantages of the aristotype paper, there is no reason why it should not be preferred to albumen paper in all its considerations.

As I am particularly familiar with the manufacture of aristotype paper, I can state that it is a good deal more difficult to make a good collodion than gelatine aristotype paper, and this is certainly one of the reasons why gelatine aristotype paper is superior to nearly all brands of collodion paper now on the market. It appears as if the toning bath did not penetrate so easily the gun-cotton film. In fact prints made on this paper have a decided tendency to tone irregularly and to curl in the toning bath. On account of this property, preliminary soaking in alcohol or special

toning baths have been recommended, but all this makes the process more complicated than the use of albumen paper.

The printing paper that gives the best results with the minimum of trouble will always have the best chance for popularity. There resides the superiority of gelatine paper. I have been advocating this idea to the makers of New York aristotype paper, and they have now put in the market, a splendid gelatine paper that can be handled in the same way as albumen without the troublesome sensitizing and fuming operations. I have tried several toning formulas, with this paper, such as are used for albumen paper, and all seem to work equally well. So great is the similarity of manipulation that I have often toned albumen and aristotype prints in the same bath without any special precaution, and obtained beautiful results. Fixing and mounting is done in the usual way.

Toning baths should never be acid; they should be either neutral or slightly alkaline. Slight alkalinity does not injure gelatine as much as it does albumen prints.

For toning I keep a stock solution containing 15 grains of gold and sodium chloride dissolved in 200 c.c. water (about 7 ounces). With this solution I can prepare my toning bath at once by diluting it with about five parts water, and adding about half a teaspoonful of bicarbonate of soda for every 200 c.c. (7 ounces) of toning bath. Before toning the prints are soaked in water and washed exactly the same way as albumen prints. Toning should not be carried too far, as the tones darken considerably after the prints are dry. I fix the prints in a fresh bath of hypo at 5 per cent., in which they are kept for about ten or fifteen minutes. In order to harden the film, I recommend the addition to the toning bath of about one-third its volume of saturated solution of alum. This solution can be kept in stock in a large bottle. Prints on gelatine aristotype paper can be burnished in the same manner as albumen prints, and the gloss is exceedingly brilliant. They can be enameled with very little trouble by squeezing them, when wet, on celluloid or ferrotype plates, which are previously rubbed with powdered talc. If this operation is properly done, and if you let the prints dry slowly, and are patient enough to wait until

they are thoroughly dry, they will peel off without any trouble; but you will have poor success if you try to do it in a hurry.

The great facility with which this paper can be toned has induced those who used it to prescribe compound baths, containing at the same time gold, fixing compounds as hypo and sulpho cyanides and other compounds. Many formulas of this kind have been published and are used more generally by amateurs than by professionals. If the use of such baths simplifies the manipulation, they cause irregular toning and lack of permanency in the prints. You are never sure whether your prints are really toned with gold, or are produced by sulphuration; it is a known fact that prints can be toned without gold, as long as there is silver in *status nascendi* in such bath, but whether such prints are permanent or not is a question which I am very much inclined to answer in the negative.

Taxing Amateurs.—Herr Brand, a Viennese photographer, has suggested to the Finance Minister of his native country the levying of an annual tax of twenty-five florins on amateur photographers; but the Minister having closed his eyes to this seductive idea for increasing the revenue, the aggrieved Herr Brand has delivered himself of a long letter to the *Vienna Tageblatt*, in which he lays bare his reasons for his suggestion. These are, of course, that amateurs are the ruin of professional photography, etc. He admits that there are some amateurs out of whom professionals make a profit, but these, he says, are in the minority. He bitterly complains of those who lend their cameras to friends, and who employ photography for commercial purposes, thus taking the bread out of the mouths of the ill-used professionals. He believes that a tax would change all this by discouraging the employment of the camera amongst amateurs, and so bringing back a great deal of work to the professional. Herr Brand seems to have succeeded in nothing so much as getting himself well laughed at for his pains.—*The British Journal of Photography.*

A set of lantern slides, says the *Optical Lantern Journal*, of monkey's hands would be rather an unusual order for a dealer to supply, but such will be projected at the next lecture given by Miss Dalrymple, the palmist, who intends discoursing upon the head, heart and life-lines of gorillas.

THE FADING OF SILVER PRINTS ON ALBUMENIZED PAPER.

BY ELLERSLIE WALLACE.*

THE fading of silver prints on albumenized paper is an interesting matter, but one about which we know very little. Those of us who have given the subject any attention, have been struck with the singular fact that skill and care on the part of the maker of the prints is no guarantee of their permanency. In fact, numerous cases could be quoted where prints made in the most slovenly manner, with poor materials, and by men so ignorant that they hardly knew the names of the chemicals handled, have actually outlasted the best efforts of skilled and careful photographers.

In most other departments of practical photography, we could say that more careful investigation would help us in determining the causes of fading, even if it proved impossible to entirely do away with them. But the subject is an exceedingly difficult one, partly owing to the complex chemical nature of the silver print, and partly from the impossibility of watching the behavior of batches of prints, or even of individual prints out of a given batch, for years at a time, and of obtaining data as to their manufacture which would be of any practical value.

From the earliest days of silver printing, imperfect removal of the hyposulphite after fixing has been cited as a pregnant cause of fading. Althoug I do not at all mean to inculcate any carelessness in the operation of final washing, I am satisfied that the dangers from the said source have been much overrated. Assuming that a good commercial sample of the hyposulphite is used, and that no foreign matter, like acids, be allowed access to the fixing bath, there is really no reason why a print shoul not last well even if quite a large quantity of the fixing salt remains in the paper. Of this fact I am certain. I have seen prints made by an experienced maker of albumenized paper, which had merely received

* Read before the Photographic Society of Philadelphia February 10th, 1892.

a couple of rinses after fixing, and were then immediately dried. These prints were several years old when I saw them, and had remained perfect in every respect. This gentleman agreed with me in condemning the excessively long soakings and washings then customary, sometimes lasting for four and twenty hours. Experiments made after my interview with him bore out his statements to my perfect satisfaction.

I will now ask your attention to a point in silver printing which I have been led to believe has an influence upon the permanency of the print, and one which I do not remember to have either read or heard mentioned. Let me say, however, that I do not advance it as an universal cause of fading, but as one of the ways in which an explanation may be given of the wonderfully contradictory behavior of prints from the same batch, made in the same manner.

Everyone who has tried silver printing, is aware that even and successful toning of the print cannot be accomplished if there is free nitrate of silver left in it, but that the said salt must be washed away before the print is risked in the gold bath. Neglect of this means red patches and streaks, alternating with ashy blue tints and measliness over the entire print, and oftentimes precipitation of the gold in the bath and consequent stoppage of the toning action. But this is not all.

The proper forming of the image of a silver print demands the harmonious chemical action of three distinct compounds of silver The first, chloride of silver; the second, the organic colorific compound of albumen and nitrate of silver; and the third, free nitrate of silver in excess. When a print is taken from the frame and washed, the chloride and a certain portion of the darkened organic compound remain unaffected, while the free nitrate, and in all probability a considerable amount of the organic compound, are washed away. Now the point which I desire to ask your consideration of, is, whether the too complete removal of this organic compound, in the washing before toning, may not injure the stability of the print by robbing it unduly of one of its important component parts before the gold has had permanent abode in the print? The objection may be raised that the hyposulphite

would remove it in the fixing, but if the gold is well deposited upon it, it would remain.

I am aware that the idea may seem far-fetched, but we can find analogies to it in several departments of photographic chemistry. Take, for instance, the manufacture of washed collodio-bromide pellicle. Here the bromide of silver is formed in the collodion by adding nitrate of silver to collodion containing a soluble bromide. In order to get rid of the bye-salts which come from the double decomposition between the bromide and the nitrate, the emulsion, after setting, is washed in water to remove them. But it sometimes happens that the pyroxyline is of a variety that will not bear the washing without parting with an organic compound between the silver and the pyroxyline which seems to form during the ripening of the emulsion. When such is the case, the resulting pellicle gives thin, foggy negatives, and is in every way unsatisfactory. It was long ago discovered that nitrate of silver reacts with such substances as albumen and gelatine (less so with pyroxyline), entering into combination with them; and as I have already said, the albumen compound is the important colorific substance of the silver print. Another fact that seems to help in bearing out my idea is, that prints from which all traces of silver are thoroughly eliminated, as, for instance, by prolonged boiling in some chlorinous solution, refuse to tone.

We are therefore driven to the conclusion that prints must contain an appreciable quantity of silver in order to take the gold properly during the toning. But on the other hand we know that an excess of the silver is incompatible with good toning, as I have already remarked. It may then fairly be asked how long the prints ought to be washed before toning, and the answer to this question can be found only in practical experience. A batch of, say, one hundred and fifty 8 x 5 inch prints, put into one of the longest porcelain pans obtainable at the stock-dealer's, and set under an ordinary dark-room tap, would contain a large amount of free silver after half an hour's washing, while a dozen prints of the same size would probably be ready to tone after ten minutes' immersion or less.

But another objection may be raised. The question will be asked, why some prints from every batch fade in a comparatively short time, while the rest remain white for years and years. Now to answer this I must ask you to remember that excellent as our commercial brands of albumenized paper are, it is an impossibility to coat sheets with albumen so evenly that it shall be of just the same thickness or body at every part of the sheet. The behavior of the prints, both during the printing and after they are finally dried, proves this. Every practical printer knows the value of the "thick ends of the sheet," and if he is a careful workman reserves them for the most difficult subjects. Prints made on these "thick ends" will curl in a refractory manner when dried, owing to the heavy body of albumen on the paper, while those made on the more central portions of the sheet remain flat. Remembering this, is it not fair to assume that prints, even when made from the same sheet of paper, will not part with the organic silver compound equally when washed before toning, owing to the variable thickness of the albumen, and will thus present to the gold a variable quantity of the important organic constituent?

Before proceding further, let me say that I hope this theory is not a tenable one, for if true I do not see how things could ever be improved or rectified. I am afraid, however, that there is some truth in it. The fact that prints toned in the chloride of lime toning bath, without any washing whatever to remove the silver after coming from the frame, last fully as well as others made in the usual way (better, indeed, in some cases), is another item in support of the view I advance.

An enumeration of all the possible causes of the fading of silver prints would be indeed lengthy. But I wish to direct attention to the want of reliability of a mountant which, until very recently, I had always considered quite safe, and have myself largely used. I refer to gelatine, either when dissolved in water alone, or in water with alcohol added, to prevent cockling of the mount, not only as a mountant in the usual sense, but also, I regret to say, as a material for cementing prints to glass, or as a sizing. My attention was first directed to this by an able editorial in the *British Journal of Photography*, in which the

statement was made that there had been complaints of the beautiful "cemented prints" fading in a surprisingly short time. I had scarcely read this article when I became aware that a handsome frame full of cemented prints, owned by this Society showed unmistakable signs of fading, and when I last saw them they were in a very bad state. Prints of my own make, with the greatest care and best obtainable material, have behaved in the same manner. I am also informed by one of Philadelphia's oldest and most learned photographers that a particular style of print in which he used gelatine in one of the finishing processes, has not lasted as well as he might have expected, after the great care expended upon them, and the same gentleman strongly condemns the practice of mounting prints on cards with gelatine in any form, preferring starch. My own experience goes to the support of this statement in the most positive manner; prints that I have had by me for more than twenty years, and mounted with starch, have lasted well, while almost every gelatine-mounted print in my possession has faded more or less according to its age. I am the better prepared to say this from the fact that I have within the past few days carefully reviewed the contents of a portfolio that had been laid away for many years.

If I were asked what are the important matters to care for in printing, as regards permanency, I should reply: a good albumenized paper, *free from smell;* worked on as strong a silver bath as the salting of the paper would allow; toned rather rapidly, after the minimum of washing, and, if necessary, adding common salt liberally to the toning bath to make up for it; to wash off the gold thoroughly before fixing, and to have the fixing bath strong and lukewarm to the finger; to work the prints about thoroughly during the fixing and the first rinses after fixing; to wash them in *rapid changes* of water; to avoid gelatine as a mountant; and, finally, to rub in wax after rolling; the best means being to reduce pure white wax to the consistency of soft butter with turpentine and a little oil of lavender. I prefer this to the ordinary burnishing.

LIFE-SIZE PORTRAIT HEADS.

A. MAHLSTOCK, F.R.A.

WHEN the photographer wishes to obtain large portrait heads without resorting to enlargements, it becomes necessary to use an objective of great focal length. If this is not done, certain peculiarities appear in the portrait which are frequently to be noticed in three-quarter and full-length pictures. These peculiarities, so common to objectives of short focal length, are commonly called distortions. Mathematically they are not distortions, as perspectively the picture is absolutely correct. Thus these peculiar features are distortions only in the æsthetic.

When the exposure is made at close range, the following results will be noticeable in all protrait heads, being apparent at a glance even to the casual observer with an unschooled eye,—viz.: The sharpness of the image is usually very irregularly distributed, the definition in itself showing a strong tendency to curvature, especially the protruding parts. As the perspective foreshortening at short range becomes excessive, the important characteristic parts of the sitter will be covered stronger than they should be, which consequently results in a lack of focal definition, and the ofttimes ridiculous enlargement of the prominent features nearest the objective.

This peculiarity is most apparent with the nose, which at the point, in addition to being enlarged, is by the lack of focal definition so spread that the nasal wings are only half discernible. The same conditions are repeated in a more or less modified or aggravated form with the ears, hair, and the contour of the dress or costume.

Then, again, even if the rapidity of the lens or the extreme sensibility of the emulsion permitted a stopping down of the objective until the lack of sharpness be overcome, there would still remain the exaggerated action of an excessive foreshortening. Whereas for a full-length picture the camera is never brought nearer than 16 to 18 feet from the sitter, to obtain a life-size head it is not unusual to advance the lens to within five feet or even less of the

subject. Now unless at least a distance of six or seven feet intervenes it is exceedingly difficult to obtain a satisfactory diffusion of definition.

Further, as a large camera is indispensable for large portrait work, there is but little danger that the lighting of the subject will be interfered with by the increased distance.

In conclusion it will be permissible to call attention to one point rarely touched upon in photographic literature,—viz.: What constitutes a "life-size" head?

To properly understand the term "life-size," it should be accepted in its relation to a full-length figure,—the size of life. Now the true color artist in a case of this kind knows that he must not sketch the figure upon his canvas of the actual size, but somewhat smaller than the original, to such a degree as is prescribed by the well-settled laws of perspective.

The cause for this is that if the figure were sketched upon the canvas in the exact natural proportions, it would, in comparison with any other objects introduced in the foreground of the painting, appear exaggerated, or above life size.

Granted that the same fundamental rules were also applied to these surrounding objects, it would still be necessary for the spectator to retire back from the painting until the figure appeared to recede to the proper dimensions, even though all portions of the painting be mathematically correct.

In reduced pictures, the spectator, on the contrary, has to approach nearer and nearer until the natural point of view is reached, or, as it is technically stated, until the picture has advanced to the proper point.

In viewing large photographic portraits the distance of view for a natural effect is always equal to that of the focal length of the objective used.

Consequently when it is desirable to produce a photographic life-size portrait in all that the name implies, the operator must arrive at a comparative size from the other parts of the body. Although the resultant image will show somewhat of a reduction in the outward contour, the finished portrait will appear of a perfectly natural size, and not, as is the usually the case, colossal or exaggerated.

THE INACCURACY OF DESCRIPTION OF PHOTOGRAPHIC OBJECTIVES BY MANUFACTURERS.

BY W. A. CHEYNEY.*

THIS Society has appointed a committee to inquire into the possibility of adopting a universal standard by which the manufacturers of dry plates may be enabled to mark their goods so that a purchaser will know the sensitiveness of a plate without the necessity of a trial exposure.

Now in order to obtain such a standard, it will be necessary to take into consideration, among other things, the ratio between the equivalent focus of the objective and its aperture; and the purchaser of plates will have to know the ratio as respects the objective that he may be using, or else the marking of the plates will be useless.

The present method followed by the manufacturers in describing their objectives, which seems to be done either in ignorance or with a purpose to deceive, is so erroneous that one must determine the dimensions of the objective for himself, involving no little skill and knowledge, or be led into disappointment and loss that would be avoided if the descriptions were accurate.

We find objectives described at the present time in the price-lists of the manufacturers about as follows:

No.	Size of group.	Size of landscape.	Back focus	Equivalent focus.	Diameter of lens.
X	8x5	6½x8½	7	10	1¾

First let us take into consideration the equivalent focus, which enters into all calculations relative to the capacity of the objective to do a given work in a given time. Here we find 10 inches put down as the equivalent focus of the class of objectives which we are considering, described in the price-list as No. X. Now it is safe to say that out of one hundred objectives, made and classified as having an equivalent focus of 10 inches, not five will have an equivalent focus of that length, and the remainder will vary from 9½ to 10½ inches, or even to a greater extent.

* Read before the Photographic Society of Philadelphia, March 9th, 1892.

The back focus is a dimension that is comparatively unimportant, because the only thing governed by it is the size of the camera box, otherwise it does not enter into any calculation. Still, there is no reason why the figures given on the price-lists should not be correct, or if known by the manufacturers to be only approximate, then let it be so stated. But, as we all know, this is not done, and the statements as to the back focus are as erroneous as are those of the equivalent focus.

Next we have the diameter of the lens. And while the measurement may be correct as respects the diameter of the glass, yet it is deceiving, from the fact that while with one lens the cell which holds it does not lap over the edges of the lens more than 1-32 of an inch, in another it will lap as much as ⅛ of an inch, or even 3-16 of an inch. In this way the working aperture of the lens may vary as much as 5-16 of an inch, while the diameter of the lens will remain constant. This being the case, why not give the *working aperture* correctly instead of a dimension which is so variable that it is only misleading?

As to the size of the plate that the objective will cover sharply when open to its largest aperture, and that which it will cover when "stopped down" with its smallest diaphragm, we will not discuss, for what seems to be "sharp to the corners" to one person does not seem so to another. This difference of opinion arises largely from the use to which one or the other puts the negative obtained with the objective, for he who wishes to enlarge will naturally be more particular than he who wants to reduce; and it is also governed to a great extent by the eyesight of the persons. As to this dimension of the objective, would it not be better to give the diameter of the circle covered sharply, rather than the size of the plate?

To cure these errors, it is only necessary that the manufacturers shall state that the dimensions of the objective given on the price-lists or catalogues are only approximate, and to send with each objective a certificate setting forth the correct dimensions, over the signatures of the manufacturers. This is not only due to the purchaser, but is also *a protection to the manufacturer who makes a good objective.*

But the manufacturer says that photographic objectives are not instruments of precision. If they are not, then we are paying too much money for them, and all the talk about the necessity for accurate calculation of curves, accurate centering, etc., goes for nothing. And it will be useless for engineers to endeavor to use photography in making topographical and other surveys, where an error of an instrument would be multiplied a thousand times.

The manufacturers to the contrary—a photographic objective *is* an instrument of precision, and as such should be accompanied with a certificate of its exact dimensions.

Thus far we have been dealing with those dimensions which are set forth in the catalogues; but we now come to a dimension not so stated, which is as important in any calculation for accurate work as that of the equivalent focus, and is generally expressed in its ratio to the equivalent focus,—namely, the aperture of the objective, or, in other words, the diameter of the diaphragm.

With each objective there is a set of diaphragms, either detached, rotating, or iris, which are usually marked *f-4*, *f-8*, *f-16*, down to *f-64*, and these marks should mean something. But they do not, for in most cases they are erroneous and are not the fraction so stated, either of the equivalent focus, as given in the manufacturers' catalogues, or of the true equivalent focus of the objective.

In the case of a certain objective, where the equivalent focus given in the catalogue was 8½ inches, the true equivalent focus was 9 inches, the diaphragm marked *f-8* was ⅞ of an inch instead of 1⅛ inches, and all the other diaphragms were wrong in the same ratio of error. This is not an isolated case, but is the rule rather than the exception.

Now this proceeding on the part of the manufacturers of objectives is an insult to the intelligence of all photographers, whether professional or amateur, and is a degradation to photography. Therefore it is our duty as a society and as individuals to protest against such inaccuracy, and we should by all means in our power endeavor to put an end to this "Rule of Thumb."

Finally, there is one dimension that should be marked in some way upon every objective, namely, the optical center of the

objective. This is never done, and often leads to error in enlarging and copying, for in both of these operations the measurements should be made from the optical center of the lens or combination of lenses, as the case may be. As this is a difficult point to determine, would it not be well for the manufacturers to mark all objectives as follows:

In the case of a combination, to run a line around the barrel so that the center of a circle thus drawn coincides with the optical center of the combination, and to mark the line as follows, "The center of this circle is the optical center."

And in the case of a single lens, to put in the certificate that the optical center of the lens lies in the axis (so many inches) in front of the anterior surface, or (so many inches) back of the posterior surface of the lens.

Cheyney, Pa., March 9th, 1892.

PHOTOGRAPHIC NAMBY-PAMBYISM.

WALTER D. WELFORD.

OH that I had the blunt, outspoken, fearless speech of a P. H. Emerson, or the scarcastic ridicule of a G. R. Sims, that I might the better denounce the insidious foe to photography now so rapidly creeping upon us,—namby-pambyism. It is to be met at all turns, whether amongst our societies, in our meetings, our exhibitions, or in the press. When I say that it exists principally amongst the amateur ranks, it is with no intention of raising up the professional as a bright and shining example. Professionals as a body are too jealous of each other and everybody else to come close enough into contact with their fellow-men to give any opportunity to namby-pambyism,—the only exception to this being shown at exhibitions.

Let us go to a club or society meeting. The president, perchance a local magnate, knowing but the merest outline of photographic work or technique, occupies the chair. Listen to the pretty little sentences: "Our estimable honorable secretary will

read the minutes," or "Our good friend and earnest worker for this society, the honorable treasurer, will next kindly allow us the privilege of seeing his holiday prints." Next, in return, the honorable secretary assures the meeting that the presence of the genial president "is a guarantee in itself of a thoroughly enjoyable evening." How diffident everyone is to everyone else,—"my dear friend this," or "the clever worker" that. No speaker is in error; you merely "cannot agree entirely with his remarks." He may be dealing with a subject with which he is absolutely unacquainted, but you polish the edge of the reply, and say, "I think, though I may be wrong, that the popular member who has just spoken has met with a different experience from others." Perchance one of the rank outsiders, timidly addressing the chair, inquires humbly why the resolution as to notices of meetings has not been carried out? The president, with a beaming smile, rises to assure him how earnestly and thoroughly the honorable secretary does all the work, and with a few platitudes strokes the questioner down the right way, brings in a few sweet nothings about the talented officers of the society, and sits down beaming upon all around, such a perfect embodiment of complete satisfaction and geniality that the outsider wishes he had not troubled so nice a man. What is all this? Is it business? No, namby-pambyism.

Then comes a lantern lecture, some well-known official of another society, probably, being introduced with a few words as to his ability, knowledge, and general good-fellowship. He is of necessity a very dear friend of the president, though they may have never met before. During the course of the lecture you will hear weak attempts at puns, sentimental little quotations from the poets about the fair sex whenever the chance occurs, how much your society is thought of by himself, what a splendid president to have at the head of the society, and how well the lantern is being handled. He is simply overwhelmed with delight at being present, especially when so many ladies—"ah! the dear creatures"—are present. Some are young, too, and so pretty that if he were not such an old man now, he really thinks, nay, is almost sure, that he should have lost his heart that evening. Notice with what care he works in kind little inanities about the

various officials, especially, perhaps, the one whose hospitality he is enjoying. Is this an instructive lantern exhibition? Certainly. An exhibition of namby-pambyism.

Now let us visit a large photographic exhibition. See the efforts to make a fine buxom country lass appear as though in the deepest sorrow, beside a cradle with a doll in it. What is the title?

> "For well may she weep when her babe is gone,
> As the light fades from the sky."

Is there anything impressive about the picture? No; it merely excites wonderment at the simplicity of the artist, who imagines that from every-day accessories he can with his camera conjure forth the deep expression of grief. If sorrow and death be too deep for words, what chance has the mechanical operation of photography to succeed? Next to this frame probably is one of a pretended mourner at a tombstone, or a pretty-faced girl upon a couch, entitled "Gone." What is gone? The sense of the man who sent such a subject to a public exhibition. Is it sentiment? Is it art? No; it is sickly namby-pambyism.

Take up one of our photographic periodicals. Why, because some man has at one time taken a prize in a competition,—why do we ever after praise his work, his wife, his house, his business, his social position? We refer to workers as "old friends," energetic officials, and so on.

We are sure to find references to some one who has done us a good turn at some time or other by asking us to tea, when other people and other matters are neglecled. His pictures are criticised (sic) at an exhibition fulsomely, whilst others are not even mentioned. We waste columns upon reports of our own doings, record the nice things said about us, how nice we are and what clever editors. Is this journalism? No; it is namby-pambyism.

Stamp it out, tread it under foot. Let us have a more sturdy, vigorous, common-sense life. Discard it, destroy it, for it is a reptile. We want more free, outspoken bluntness, not forgetting to value the opinions of others, but dealing with everything that comes before us with a manly English straightforwardness.

Namby-pambyism is hypocrisy and toadyism, a creeping, unclean thing. Kill it!—*Photographic Review of Reviews.*

A HISTORIC LANDMARK.

BY CHARLES H. MILLER.

CHEW HOUSE, Germantown, Philadelphia, Pa., was erected in 1762 by Chief-Justice Benjamin Chew, a lawyer of the Middle Temple, London, a descendant of Colonel Samuel Chew, of Chewton, in Somersetshire, England, who settled with Lord Baltimore in Maryland in 1671.

Benjamin Chew held several important offices in the old province, and was Chief-Justice of the Supreme Court before the Revolution. Although a friend of Washington and other prominent patriots, his fidelity to the American cause was much doubted, and he was imprisoned at Burlington with John Penn and others until 1788. After the Revolution, however, he was appointed by Governor Mifflin, President Judge of the High Court of Errors and Appeals.

The name given to the estate by Judge Chew was Cliveden, a title which seems to have early fallen into disuse. As Chew's House it was known when Washington's forces advanced against the troops of Lord Howe on the eventful 4th of October 1777.

In the retreat from before Wayne's troops, who were advancing down the Skippack Road (Main Street), which at that time ran through the centre of the village and was bordered on each side by peach trees and a row of houses, Colonel Musgrave, with six companies of the Fortieth Regiment, succeeded in getting possession of the Chew House.

While Wayne, with the advancing body, continued to pursue the retreating British through Germantown, the remainder of the American troops were brought to a halt by Colonel Musgrave. This officer had barricaded the doors of Chew's House, and from his light infantry kept up a murderous fire upon the pursuers. A discussion now took place among the American officers; some were in favor of storming the house, and others were opposed to the consequent delay. General Reed was for pushing on. General Knox of the artillery however contended that it was contrary to all military precedent to leave "a fort," possessed by the

enemy, in the rear. "What!" exclaimed Reed, "call that a fort, and lose the happy moment?" Knox's opinion, nevertheless, prevailed; and that everything might be done according to the "rules of war," it was determined to send a summons to the commander of the fort "to surrender." A youth was therefore sent with a flag in due form; but had no sooner reached within musket range than he was shot dead.

The artillery was now brought up, but even cannon balls proved ineffectual. Attempts were at last made to set fire to the house. Some with bundles of straw, and others with firebrands of pine-wood, made their way amid a shower of bullets to the lower part of the building, where they strove to effect their purpose. (The corner at the left of the picture is where a young Virginia lieutenant was shot dead while trying to light some straw he had placed against the side of the building. The mark of the bullet which struck him and glanced off is still seen upon the stone.) But Musgrave's men were on the alert, and, getting in the cellar, shot down each man before he could accomplish his object. A half hour was thus lost in these vain efforts to carry out Knox's formal tactics, and the rear of Sullivan's division was prevented from that aid to General Wayne which might have proved of effective service. At that time a new addition was being added to the rear of the house which was only half completed. It being a very foggy morning Washington, who accompanied Wayne's division in person, mistook it for breastworks thrown up by the British, and led him to believe that a large force was concealed behind it.

The house is now occupied and owned by Miss Chew, an old lady of 87 years of age, who is a direct descendant of Benjamin Chew, being his granddaughter, and the last of a family of thirteen children.

The house was, of course, much damaged; but, on the whole, stood the siege with credit to its builders.

It was so battered that it took four or five carpenters a whole winter to repair the fractures. The front door, which is still preserved, was full of shot holes. Every room was bespattered with blood, and the walls riddled with bullets, which still can be seen. One six-pound shot, which came in at the front window, passed

A HISTORIC LANDMARK,
THE CHEW HOUSE, GERMANTOWN, PENNA.

NEGATIVE BY
CHARLES H. MILLER, PHILA.

through four partitions, and then out of the back of the house.

The fight, which lasted all morning, was fought all along the Skippack Road (Main Street) as far down as Wayne Junction, and the houses on each side, many of them still standing, bear marks of the battle. The Haines house, which is lower down the street, was used as a hospital for those soldiers whose wounds demanded immediate attention, and is now occupied by the descendants of that family. It was built by Dirk Johnson.

For historic and other reasons the Chew House is one of the most interesting, and, except Mount Vernon, perhaps the most notable private residence in the country.

THE FIRST NOTICE OF ALBUMENIZED PAPER FOR PHOTOGRAPHIC PURPOSES.

THE following paragraph records the first application of albumen to photographic purposes; it originally appeared in the *Athenæum* of London, and it was reprinted in the *Journal of the Franklin Institute*, of Philadelphia, for the year 1839,—viz.

PHOTOGENETIC DRAWING.

Considering that any (however trifling) improvement will not be unacceptable to those of your readers who feel an interest in this art, I have been induced to communicate the following method of preparing the paper, which, after many experiments, I find to succeed best. Wash the paper with a mixture of equal parts of the *white of egg* and *water*, afterwards with the solution of *nitrate of silver*, fixing the drawing as usual with the *iodide of potassium*.—H. L.

Little did this unknown experimenter know that in a little over a decade his invention would expand into an important industry, and that others would claim and reap the benefits of his discovery.

The introduction of albumenized paper for photographic purposes is usually credited to Fox-Talbot, notwithstanding that a Frenchman, Le Gray, mentioned it in his work published as early as 1850, just eleven years after the above publication in London.

It would be interesting to know the identity of this original inventor of the albumen process,—perhaps some of our English contemporaries can lift the veil, so that credit may be given to whom it is due.—J. F. SACHSE.

M. MATHET'S ORTHOCHROMATIC PHOTOGRAPHY.

XANTHUS SMITH.

WE are in receipt of an admirable treatise upon orthochromatic photography, under the title of "Guide Pratique pour l'emploi des Surfaces Orthochromatique, leur application a la Photographie des Objets Colorés." The work is by M. L. Mathet, Chemiste, Pharmacien de premiere classe. Published by the Société Générale d'Éditions, 24 Boulevard St. Germain, Paris.

That M. Mathet is an enthusiast in this particular branch of photography is evident from the thorough and painstaking way in which he treats of the various nice details to be attended to in order to attain very successful results in the reproduction of true color values by photography.

As the volume comprises more than eighty pages of matter, it would be out of the question to translate it for the benefit of our readers, as we might an ordinary pamphlet article, but as orthochromatic photography does not seem to be practiced here with that thorough attention to details which is required in order to approach the best results, we will give a brief outline of the contents of the book, more as a matter of interesting some of our readers in the subject than of instructing them, as we would be glad they should be instructed by a careful reading of the book.

M. Mathet, after speaking of the introduction of the art in 1882, and regretting that it has not been more generally practiced in France, owing to a fear of the complications of the process on the one hand, and a failure to attain success through careless manipulation on the other, goes on to lay great stress upon the necessity for using colored screens in addition to the orthochromatically prepared plates. The screens must not only be of different colors, but there should be at least four different shades or depths of each color. For instance, in copying a water-color drawing or painting in direct sunlight a screen of great depth of tint should be used, whereas in copying the same work with the same conditions of plates, lens, etc., in a feeble gray winter light the palest or weakest screen should be used. The light of oil-

lamps or gas is of the same character as the feeble diffused light, requiring the slightly colored screen, while the electric light is more of the character of sunlight, and needs a highly-colored medium. Different pigments of the same color have very different actions,—as in the yellows, Naples yellow is far more actinic than chrome yellow.

The screens for interposing may be of glass or of pellicles of gelatine or collodion colored with aurantia to correct the yellow, and with rhodamine or erythrosine to correct the red. The author goes nicely into the details of the preparation of these screens. They should be perfectly even in tint, and free from striations or inequalities of surface, and are used to the best advantage when arranged so as to be inserted in the barrel of the lens in the same manner that stops are used.

A plan suggested as a convenient way of using a great number of tints, and changing them quickly, is to secure two perfect sheets of plate glass together on three sides, leaving a small intervening space, which may be filled with colored solutions kept in bottles, the solution being emptied into the screen and returned to its respective bottle after use. This plan would seem to be better suited for studio work than for out-door photography.

In the portion of the work treating of the plates to be used, the author says that amateurs generally will prefer to use the orthochromatic plates furnished by the plate-makers, but for such as may prefer to orthochromatize the ordinary dry plates of commerce, which is very easily done, the following will be found the best treatment:

A great number of substances have been suggested, and have been found to give successful results to a greater or less extent, but M. Mathet's experience is that for the correction of yellow and green, rose of Bengal, erythrosine, erythrosinate of silver, and red of quinoline have decided preference,—and more especially is the erythrosine recommended on account of the greater sensitiveness of the plate subject to its treatment.

Violet methyl is a sensitiser for red, but the most perfect sensitizer for the red rays is cyanine or blue of quinoline, which has this disadvantage for use, however, that it does not hold its color

in solution. The alcoholic solution will retain its color for a few days only in the light, but when kept in absolute darkness, the author has preserved it for more than two years.

The substance which seems to be the most practically useful is chlorophyl. It was one of the first experimented with in the making of orthochromatic plates, and possesses a high degree of sensibility for red. It has this disadvantage, that it must be freshly prepared. The following method is given for its preparation: Take fresh myrtle leaves, cut them in fragments, cover them with ninety-five per cent. of alcohol, and heat over a lamp for twenty minutes, stirring all the while,—not letting the temperature rise above 60° C. Allow to cool, and filter. The resultant greenish liquid is the chlorophyl. It will keep for some time in a well-stopped bottle, but should be carefully shielded from the light.

The iodo-bromide plates give better results when sensitized for color than the bromo plates. The former are to be distinguished by taking a fragment of the plate into the sunlight, when it will be found to have a decidedly greenish-yellow cast. The tint must be judged of immediately on exposing to the light. Care should be taken to employ plates absolutely free from disposition to fog.

The quantity of coloring matter required for the bath is small,—about 1 grain to 500 cc. of water or alcohol, if the substance is not soluble in the former. It is recommended to insert the plate in a weak solution of ammonia (2 cc. to 200 cc. of water) in order to make it receive more quickly and equally the coloring bath. The disposition which this alkaline bath would ordinarily have to fog the plates, is, it seems, entirely corrected or removed by the subsequent bath of erythrosine, eosine, or quinoline red, as the case may be.

The bath for plates sensitive to yellow and green is as follows:

Distilled water	190 cc.
Ammonia	5 cc.
Aqueous solution of erythrosine at 1-500	12 cc.

For yellow, orange, and orange-red:

Alcoholic solution of quinoline at 1-500	8 cc.
Alcoholic solution of cyanine purified with chloral at 1-500	1 cc.
Water	200 cc.
Ammonia	2 cc.

The bath to sensitize for red is composed of:

Cyanine solution at 1-500	6 cc.
Distilled water	250 cc.
Ammonia	4 cc.

The ammonia to be added last. The ammonia is to augment the rapidity of the plates, which would otherwise be greatly retarded by the cyanine, and the cyanine treated with chloral as used in the preceding bath is to preserve the cyanine, which otherwise decomposes rapidly.

The plates are dipped in the sensitizing bath and allowed to remain from sixty to seventy seconds, the author says, then drained and washed slightly in a bottle of distilled water, after which they are to be drained in a nearly vertical position on thick pads of blotting-paper, and subsequently dried without artificial heat in an absolutely dark room. They will dry in three or four hours, under ordinary circumstances—in summer in less time—but under unfavorable conditions a carefully-arranged ventilation should be constructed, connecting with a chimney, or admitting of the use of a lamp, so as to cause a current of air without danger of leakage of light. If the plates should be too long in drying, they will be sure to yield fogged, spotted negatives, of unequal density.

M. Mathet is enthusiastic over the very superior results obtained by the use of orthochromatic plates in taking flowers and objects of vertu, for portraiture, and for copying paintings, water-color drawings, and maps and photographs, and especially in the difficult branch of copying oil-paintings, manuscripts, etc., yellowed by time. He says that even in the case of a drawing made with blue ink or crayon on a yellow ground, excellent results may be obtained.

In the use of orthochromatic plates in landscape work, especial attention is required to the nature of the subject, the lighting, and the proper adaptation of screens, because the brilliant lighting of the sunshine, rich in yellow rays, contrasts so violently with the deep shadows, and so many complications arise from the cool bluish reflected light amongst the shaded portions in either street scenes or wood scenes, or in the case of white buildings amongst foliage, that unless screens of the proper color and depth are used little advantage is to be gained over the ordinary dry plates. It would seem that the best results are to be obtained when the sun is somewhat obscured in taking out-door scenes.

In regard to the development of the orthochromatic plates, the author says that it is absolutely the same as that employed for the ordinary bromo-gelatine dry-plate, and that the photographer is free to use whatever may be his favorite mode, except perhaps that the ferrous-oxalate development will not give such brilliant results as obtained with pyrogallic acid, hydroquinone, or eikonogen; and further, in regard to the development, the lighting of the dark room requires especial attention. It is recommended that a lamp should be used in a lantern, the latter being so constructed that different colored sheets of glass may be inserted to suit the differently sensitized plates to be developed. In developing plates sensitized for yellow, two sheets of ruby glass,—one ground, the other plain,—should be inserted, and also one of cathedral green. For red, two sheets of green should be superimposed with yellow. The author says that he has found ruby and green glass always a much safer and more agreeable light to work by, and less fatiguing to the eyes, than the yellow light so universally employed. During development the plates should be as little exposed to the light as possible, a card being kept over the tray, and raised occasionally to watch the progress of the development.

M. Mathet's work is illustrated with four photographic landscape views, which demonstrate very well the advantages of the orthochromatic plates.

GLEANINGS FROM AN OLD SCRAP-BOOK.

BEFORE THE AMATEUR STALKED FORTH ABROAD IN THE LAND.
CLIPPED BY HISTORICUS.

THE following extracts from our old scrap-book will form interesting reading at the present day. They will prove a revelation to the present generation, while such as have been hewers of wood and drawers of water in the photo field before the present generation with their hand cameras and dry plates appeared upon the scene, will recall the sensation made when Langenheim's views on paper first appeared.

Langenheim—who was Voigtlander's brother-in-law—came to Philadelphia during the forties, and for several years was the leading photographer, not only in Philadelphia, but probably in the world. He introduced the stereoscope in Philadelphia, and, if we mistake not, made the first lantern slides by the aid of photography.

The editorial about interiors will speak for itself, while the application of magnesium as early as 1866, with the resultant "Pistolgraph," will prove a photographic curiosity.

MINIATURE PORTRAITS BY THE MAGNESIUM LIGHT.—Every one, says an English journal, is now familiar with the agency of the sun in taking the most exact pictures of natural objects. Mr. Skaife, of 118 Pall Mall East, has been successful in applying to the same purpose, and especially to human portraiture, the magnesium light. The apparatus which he calls the "Pistolgraph" has been in use by him for some years, but it is only lately that he has combined with its powers this new and marvelous light, the nearest artificial approach to that of the sun. Practically, it is found to give increased facilities for the exercise of artistic taste by the operator, and the portraits obtained are free from stiffness and other defects which often attach to ordinary photographs.

The "Pistolgraphs" obtained are medallion portraits. They are taken on glass, and the picture being then placed between two plates of glass and subjected to a certain heat, the whole becomes one hard homogeneous substance, suitable for setting in a locket.—*Presbyterian, February 10th, 1866.*

LANGENHEIM'S NEW SERIES OF AMERICAN STEREOSCOPIC VIEWS.—We, the undersigned, who by subscribing and furnishing F. Langenheim with the means to commence a new series of American stereoscopic views between Philadelphia and Niagara Falls, have received the number subscribed for, and take pleasure in expressing our entire satisfaction with them, and would recommend them to all who have a desire to cultivate a taste for their own American works of art and skill. They are also colored with much taste and truthfulness to nature.

John Tucker,	Thomas C. Kirkbride, M.D.,
R. D. Cullen,	Samuel Sloan,
H. J. Williams,	J. C. Cresson,
Charles Vezin,	Lyon J. Levy,
James Farnum,	Joshua Baily,
James R. Graves,	Samuel Mason,
M. J. Lewis,	Jeremiah Hacker,
C. Gulluc,	Thomas C. James,
J. H. Towne,	James L. Clayborne,
Fairman Rodgers,	Charles C. Grugan,
M. L. Dawson.	

A CARD.—The new series of American Stereoscopic Views alluded to in the above testimonial were taken in company with the subscriber upon a recent trip to Niagara Falls, along the south route of the Reading, Catawissa, Williamsport & Elmira Railroad to the Falls, with the addition of about twelve very interesting views of scenery in the coal regions near Pottsville and on the Mine Hill Railroad.

These pictures are soon to be published upon glass and porcelain by an entirely new process. They are also to be published in a cheaper form upon albumenized paper, and may be had at the publication office of

WILLIAM LOYD, 188 CHESTNUT ST., PHILA.

THE paper views will be sold in book form, and ready for sale on Friday at Cowperthwait & Co., under the Masonic Hall, and Parry & McMullan, Fourth and Chestnut.—(*December, 1855.*)

EDITORIAL IN *Banner of the Cross*, Dec. 13th, 1860.—We have long wondered why, seeing photography has attained such perfection, that our city churches have not been represented, and the members of different congregations furnished with what many of them would value so highly, a representation of the old familiar pulpits and

desks and fonts and chancels. In the midst of our questionings, we were delighted to see that the Messrs. McAllister had carried out this suggestion, and are now ready to furnish the public with beautiful photographs of the interiors of most of our city churches. We have much to say about some of them; but our limits forbid our doing so in the present issue.

We content ourselves, therefore, for the present, with referring our readers to the advertisement of the enterprising firm in our columns, reserving comments to a future occasion.

[The advertisement merely sets forth the names of nine churches, and that each view is accompanied with a description of the church, a brief historical account of the parish, succession of rectors, etc. Price, each view, plain, 25 cents; colored, 38 cents. Sent by mail free of charge.—Ed. *A. J. of Photo.*

The Stereoscope.—Sir David Brewster, inquiring into the history of the microscope, finds that its fundamental principle was well known even to Euclid; that it was distinctly described by Galen one thousand five hundred years ago; and that Giambatista Porta had in 1599 given such a complete drawing of the two separate pictures as seen by each eye, and of the combined picture placed between them, that we recognize in it not only the principle but the construction of the stereoscope. —*Ledger, July 12th, 1860.*

G. W. Collamer, one of the best known photographers in Wilkesbarre, Penna., died on January 29th, in the sixty-third year of his age after an honorable business career of twenty-seven years. Mr. Collamer was born in Montpelier, Vermont, June 29th, 1830, and, after graduating at the University of Burlington with honor to himself and his alma mater, came to Pennsylvania and began teaching school. Not finding it congenial, and having a natural love for the beautiful in nature and art, he decided to become an artist, and for forty years followed his chosen profession, twenty-seven of which were passed in this city. His courteous manners and sterling integrity endearing him alike to his family, friends, patrons, and the entire community.

Our best successes are built upon a foundation of failures.—*Ram's Horn.*

A PHOTOGRAPHIC FEAT.

A PHOTOGRAPHIC feat was lately accomplished, which, for the number of plates exposed within a given time, and considering the difficulties, it is thought, breaks the record.

During the last month a curious old document, the proceedings of the first Freemason's Lodge in America, came into the temporary possession of the Historical Society of Pennsylvania. It was desirable that a copy should be made of the book, which consisted of 106 closely-written folio pages. The time being short it was concluded to photograph the entire book page for page. The limit of time was two days, the work having to be done in the fire-proof building of the Historical Society, where no facilities for copying or changing plates were at hand. The light was also poor, as the windows were narrow and high from the floor.

The task was, however, undertaken by one of the members, who is also a member of the Photographic Society. An ordinary 5x7 camera was used. On the first day almost an hour of valuable time was lost in getting ready, and it was not until 12.30 p.m., February 17th, that the first slide was drawn. By 3.30, when the light had become too weak to work, forty-two plates had been exposed, ten plateholders having been used. On the next day the task was resumed with sixteen plateholders, sixty-four plates being exposed between 11.18 a.m. and 3.30 p.m. The total time for exposure and focusing, exclusive of the time lost in changing plates averaged about three minutes per page, the task being done without any assistance.

When the plates were developed the result showed that all of the 106 plates were good and serviceable,—there was not a failure in the lot. This in itself is a remarkable fact, on account of the number and the uncertain light in the confined quarters.

The plates used were Carbutt B, bought at three different places, and consisted of four emulsions: Lens, Ross portable symmetrical 7-in., focus *f*-22.6; exposure 90 to 120 seconds; development, hydro and eikonogen combined, also rodinal 1:20.

In the Dark Room.—Edwin (amateur photographer)—That's it! Another plate spoiled. Angelina—What spoiled it? Edwin—The light of your eyes. P. S.—Engaged.

The Editorial Dropshutter.

The New Orleans Camera Club.—Carnival days in the Crescent City brought with them many a rare and beautiful gathering. That at the Camera Club rooms was one of the daintiest. Every one who loves the delicate art of photography knows that No. 3 Carondelet street is the Mecca of its devotees. They came from all parts of the city. There were young men and old men, and femininity lent the charm of her presence to grace the scene.

The spacious and beautiful apartments in which the club is domiciled were at an early hour thronged nearly to suffocation. It taxed the committee in charge to manage the crowd; but they succeeded admirably in caring for the large number present.

During the evening the following prizes were awarded, viz.—For the most artistic "silver print," one medal to Mr. C. A. S. DuQuesney; for the best "platinotype," Mr. Paul Reynes; for the finest "transparency," to Mr. Horace Carpenter; and for the best general exhibit, to Mr. S. L. Mitchell. The honorably mentioned were Messrs. R. H. Palfrey and S. F. Lewis, and Mrs. J. C. Kendall, of Norfolk, Ct. The announcement of the awards was received with applause. The exhibition remained open for several days, a well-deserved honor.

Captain Pizzighelli, in the *Photo. Correspondenz*, agrees with the statement published by Londe in the *Bulletin de la Société Française*, that notwithstanding the great actinic power of Blitz-pulver, the comparative period of combustion is still not rapid enough to meet the present demands of the photographer. Further, that all experiments should be conducted with the object in view, looking towards the discovery of a still more rapid burning Blitz-pulver, which would make the instantaneous shutter a superfluity.

The following bit of photographic information hails from the Fatherland, and is characteristic of the peculiar terse style in vogue among certain classes of German journalism.

"With much pleasure we announce the return of the *Wellborn Herr geheimer geheim regierungs rath*, Isidore Cohensohn, member of the *Unabhängigedeutschelichtbildnerischleiebhabergeselschaft*, from a *photographischeausflugt* to the Levant, during which Herr Cohensohn succeeded in obtaining an admirable negative of a *Constantinopolitan-*

ischerdudelsackspfeiffer. The exposure was made with a *Duplex-geheim momenthandapparat-wechselvorrichtungsystempasquarelli*, upon a *Dünngegosseneorthoskiagraphischebromsilbergelatinetrockenglimmerplatte.* The development was successfully accomplished with the new *Para-amidophenolnatronsulphitkohlensaureskali* solution, the image coming up quickly with the requisite density. Enlarged prints from the negative were exhibited at the late meeting of the Liebhaber Verein, and attracted universal attention on account of the beautiful enamel upon the surface, which Herr Cohensohn stated had been obtained with an ordinary *Dilettantenphotographensatinirmaschine*, by the use of a small quantity of *Echtafrikanischekalterpresstecoconussoehlschwim Seife.* By a unanimous vote of the club the *Vergoldetealuminumehrenmedallie* "Vogelheim" was presented to Herr Cohensohn.

A correspondent writing to the *Scientific American.* asks: "Is there any chemical sensitive to the action of gaslight? that is, is there any chemical, perfectly invisible in yellow or red light, which will darken on exposure to the light of a gas jet? I want to prepare thesur face of a blank sheet of white paper by tracing or drawing thereon some drawing or picture which will burn and char the surface of the paper, leaving a black design on the paper. I have tried saturating with saltpetre, but it burns the paper through, and is too slow, and have tried a preparation of sugar and chlorate of potash, ½ chlorate of potash to 1 pint sugar, both pulverized; it will burn a few inches, then go out. I prepared the paper by going over it with mucilage with a camel's hair brush, and carefully dusting over the powder, and have tried making a paste out of the sugar and potash, and painting it on, but it would not work. How can this be done? The powder must be white. I want a chemical, colorless, that will turn black on application of another; for instance, if I draw a design on a sheet of paper with a colorless solution of some chemical, I would like to bring it out with another one, and would like to know what will destroy the color then produced. I have a few good receipts on that subject which work very well, but would like to improve. I use chloride of iron and gallic acid, using the acid as the base and the iron as a developer, and can destroy the color with oxalic acid in solution. Now is there any color that oxalic acid will bring out, which chloride of iron will not? The effect I wish to produce is to go over the paper with a colorless solution of two different chemicals, and having two different designs or pictures on the paper already prepared, and by going over it with one developer one of the pictures will appear, and then by going over

the same paper again with a second developer to bring out the second picture, which has remained, and at the same time destroy the first picture produced. I have come very near accomplishing the above, and can do it with solutions in glasses, but they won't work on paper.

The writer fails to add what would be of the greatest interest, viz.: the purpose for which he wishes to apply the process or information.

We are in receipt from Fr. Gutekunst of a photographic panorama (32x9½ inches) of the harbor of Philadelphia, showing the river islands now being removed by the United States Government. The print is entirely free from converging lines or distortion. Particulars and a full description will appear in our next JOURNAL.

A New Toning Bath.—John R. Clemmons, whose salted plain paper is a household word with all photographers, has lately been experimenting with the salts of aluminum and their application to photographic purposes, one of the results being a formula for a toning bath giving extraordinary results upon both plain and albumenized paper, as was demonstrated at the late meeting of the Photographic Society, the prints showing clear whites and a remarkable detail in the shadow. The composition of the bath is as follows, viz.:

Chloride of aluminum	20 grains.
Bi-carbonate of soda	85 grains.
Water	12 ounces.

For use add gold sufficient to tone in 8 to 10 minutes. Abou ½ ounce of gold solution, 1:15, being sufficient for two sheets of paper. The fixing bath is made of:

Hypo	2 ounces.
Water	12 ounces.

Prints will fix in about five minutes. A great advantage of this toning bath is that when prints are put in the hypo there is but a slight change in the tone.

An apparatus for affixing adhesive stamps has been patented by an Australian. The stamp-receiver is supported by the upper end of a pair of pivoted arms. Another pair of pivoted arms support a damping-roller at their lower ends. A knob or handle causes the damping-roller to travel over the service of an envelope, etc. A plunger, fitting loosely within the stamp-receiver, is pressed down upon them. The mechanism works in conjunction, the stamp being moistened and affixed.—*Paper and Press.*

Photographic Hints and Formulæ.

Aristotype Formula.—The *Scientific American,* in reply to a correspondent who asked for the best formula for toning, fixing, mounting, and burnishing aristotypes, prints the following formulas, viz. :

A better mounting paste than starch for aristotype prints is :

Nelson's No. 1 photo. gelatine	4 ozs.
Water	16 ozs.
Glycerine	1 oz.
Alcohol	5 ozs.

Dissolve the gelatine in warm water, then add the glycerine, and lastly the alcohol. This is said to prevent cockling. Alum should be used in the toning and fixing solution to harden the surface. A combined touching and fixing solution is made up as follows :

1. Hypo	10 ozs.
Add water to make	36 ozs.

When dissolved add 4 ozs. of powdered alum.

2. A. Sulphocyanide of ammonia, c. p.	1 oz.
Dissolved in water	2 ozs.
B. Dry chloride of gold, c. p.	15 grains.
Chloride of ammonia	60 grains.
Dissolve in water	2 ozs.

Add B to A in small portions, shaking after each addition till the precipitate formed is redissolved, then filter. The solution should be clear and colorless, and be kept in a yellow bottle.

3. Nitrate of lead	90 grains.
Water	2 ozs.

Different tones can be made by various combinations of the three solutions.

Warm tones.	No. 1	2 ozs.
	No. 2	2 ozs.
	No. 3	2 drachms.
	Water	6 ozs.
Purple tones.	No. 1	8 ozs.
	No. 2	3 ozs.
	No. 3	4 drachms.
	Water	5 ozs.

Cold tones.	No. 1	8 ozs.
	No. 2	4 ozs.
	No. 3	4 drachms.
	Water	4 ozs.

The bulk of the solution may be lessened by using one-half or one-quarter the proportions above stated. After the prints are dry, and before burnishing, rub the following lubricator over the surface:

Cetaceum (spermaceti)	10 grams.
Castile soap	10 grams.
Alcohol	1 kilogramme.

This will give a good gloss.

Wood-Pulp as Absorbent.—For the purpose of rapidly drying filters and various preparations, discs or plates of wood-pulp are recommended by Paul Hartmann. These discs may be coated with cellulose, whereby they become smoother. They soak up liquid more readily than plates of clay or gypsum.—*Zeitsch. Anal. Chem.*

How to Loosen Glass Stoppers.—*The Pottery and Glassware Rep.* states that some one of the following methods is certain to prove effective.

1. Hold the bottle or decanter firmly in the hand or between the knees, and gently tap the stopper on alternate sides, using for the purpose a small piece of wood, and directing the stroke upward.

2. Plunge the neck of the vessel in hot water, taking care that the water is not hot enough to split the glass. If the stopper is still fixed, use the first method.

3. Pass a piece of lint around the the neck of the bottle, which must be held fast while two persons draw the lint backward and forward.

4. Warm the neck of the vessel before the fire, and when it is nearly hot the stopper can be removed.

5. Put a few drops of oil around the stopper where it enters the glass vessel, which may then be warmed before the fire. Then apply No. 1. If the stopper still continues immovable, repeat the above process until it gives way, which it is almost sure to do in the end.

6. Take a steel pin or needle and run it round the top of the stopper in the angle formed by it and the bottle. Then hold the vessel in your left hand and give it a steady twist towards you with the right, and it will very soon be effectual. If this does not succeed, try process No 5, which will be facilitated by it.

The Rodinal Developer.—Dr. M. Anderson, to whom we are indebted for the introduction of the new rodinal developer, indicates in the *Deutsche Photo-Zeitung* that the commercial concentrated rodinal solution contains, besides neutral sulphite and water, only an alkaline salt of paramidophenol, no excessive caustic alkalies. As to the keeping qualities of the solution he states that it keeps well, not only in bottles filled up to the neck, but also in bottles which are but partly filled with it. If, in the latter case, the solution becomes in time darker, this will be practically of no importance. If diluted with water the developer will, however, not keep for any long time. Should it be desired to preserve the diluted solution for a longer period, it should be diluted with a solution of neutral sodium sulphite (of from 5 to 10 per cent.) instead of water. A small quantity of a white salt will be precipitated out of the concentrated rodinal solution after some time, but the energy of the developer will not be influenced by this deposit. The rodinal solution containing but traces of alkaline carbonates, it is not necessary to use distilled water for diluting it. If diluted to a slight degree with from ten to twenty times its bulk of water for instance, the rodinal developer works very energetically with plenty of contrast, whilst if diluted more (from 1:30 to 1:40), it gives soft negatives. If it be desired to develop with a concentrated solution (from 1:10 to 1:20) more slowly plenty of potassium bromide solution (1:10) may be added to it without the disadvantages common under such conditions with other alkaline developers. The negatives developed with rodinal losing apparently part of their density in the fixing bath, it will be necessary to develop them to some degree beyond the usual density. Over-exposed plates, if developed with a rodinal solution diluted with thirty parts of water, will give plenty of detail but thin negatives. It will be better to develop over-exposed plates with a more concentrated solution (from 1:20 to 1:15) with the addition of a large quantity of bromide of potassium solution. Vigorous and plucky negatives will be obtained in this way. Under-exposed plates should be developed with a more dilute solution (from 1:30 to 1:40); development will thus take a rather long time, but a harmonious negative will be obtained, which may afterwards be intensified if required. —*The Photographic News.*

Who is it that takes something from something and yet leaves everything as he found it? The photographer.—*Danville Breeze.*

Smiles and speech are characteristics of man, and are bestowed upon him to express thought and affection.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

A STATED meeting of the Society was held Wednesday evening, March 9th, 1892, the president, Mr. John G. Bullock, in the chair.

The Board of Directors reported the election of the following active members: Henry Pettit, Francis B. Warner, Wikoff Smith, Samuel P. Sadtler, Harry W. Jayne, M.D., Justus Henry Schwacke, Charles T. Goodwin, James F. Wood, Harry Ashmead Lewis, Charles H. Adams, Paul J. Sartain, M.D., Elisha Douglas Shaw, Charles W. Beck, Jr.

On the evening of February 23d, the first of the series of special entertainments was given at the Association Hall. It consisted of an exhibition of lantern slides representing the work of about fifty members of the Society, and was well attended by an appreciative audience.

At the conversational meeting, February 24th, Interchange lantern slides from the Detroit Lantern and Camera Clubs were shown.

Nominations for officers and directors for 1892-'93 were made. On motion of Dr. Mitchell, with a view to increasing the revenue of the Society and extending its usefulness, the incoming Board of Directors were requested to consider the feasibility of establishing some form of associate membership.

Mr. Cheyney introduced a resolution to amend the by-laws so as to make the initiation fee of active members $10 instead of $5, as heretofore. In accordance with the rules action on the proposed amendment was deferred until the next stated meeting.

Mr. Cheyney read a paper on "Photographic Objectives,"* which was discussed at length by the members.

Mr. Pancoast asked if it would not be a good thing for manufacturers to mark on the lens-tube the exact equivalent focus, in addition to the optical centre, as suggested by Mr. Cheyney.

Mr. Cheyney moved that a "Committee on Standards" be appointed by the president, with power to appoint sub-committees, relative to such standards as were necessary to be adopted in connection with the description and marking of lenses by manufacturers.

Dr. Mitchell called attention to the new lens made by the Bausch & Lomb Company,—the Zeiss Anastigmat,—made of the new Jena glass. The makers claimed for this lens that it was entirely free from astigmatism, and that it covered the plate sharply from the centre to the edge without any diminution in the illumination.

*Vide page 161 Ibid.

It was particularly a wide-angle lens, having about the same length of focus and angle as a Ross Portable Symmetrical.

Dr. Sharp, referring to the new Jena glass, said that it was used quite extensively in microscopical lenses, and it was far superior in that it did away with a great deal of refraction, gave a flatter and better field, and was much finer for photo-micrography.

Mr. Cheyney said the description of this glass was a great deal like the descriptions of the lenses. The difference between a lens and a pin hole was very slight in their relative rapidity, *i. e.*, if the pin hole had a corresponding ratio to the focal length of the lens to be put there, and the same diaphragm used as the size pin hole represented, the difference in speed was immaterial,—it could not be distinguished. If they had a diamond lens it would make no difference. All this glass could do was to give them the power of covering more field sharply. As for the talk about one lens being faster than another, if the holes through which the light passed were of the same relative size to the focal length, there would be no difference in the speed of the two lenses, unless one of them were made of the most abominable glass.

Mr. Ives stated that he thought the whole matter was explained by the fact, not generally understood, that the ordinary glass used in constructing photographic lenses was practically opaque to some of the violet rays. It might be that the new Jena glass allowed more of the violet rays to which the photographic film is sensitive to pass through it than did the ordinary glass heretofore used.

Referring to the application of this principle to photographic lenses recently made by Mr. Dallmeyer, of England, and Dr. Miethe, of Germany, Mr. Stirling thought it was worthy of record that so long ago as the spring of 1891 the same idea was taken up by a Philadelphia optician, and applied in a slightly different way, though utilizing exactly the same principle. He referred to Mr. Knipe.

It occurred to Mr. Knipe that by using the amplifier of the microscope back of the objective of the lantern he could increase the power in the hands of the lantern operator. His application for a patent was filed last April, so that if priority for the adaptation of an old principle could be claimed, that honor was certainly due to Mr. Knipe, of Philadelphia. The name given to this adapter was the "multi-focal attachment," his idea being that the use of a double-concave lens back of the objective provided a series of image-producing points, and by adjusting the distance of the lenses, images of various sizes could be thrown upon the screen.

After adjournment, Mr. Stirling gave a practical demonstration of the powers of the "multifocal attachment."

The other matter in connection with the lantern, Mr. Stirling said, was the making and storing of oxygen. Those who had tried the old process of making oxygen as they needed it, and using it from rubber bags, knew what an insufferable nuisance it was. Within the last year or two, however, a London company has been organized to make oxygen by a different process from the one heretofore used, and it had been introduced upon the market in small steel cylinders, in which the oxygen was compressed up to 1,800 pounds, or 120 atmospheres.

Mr. Stirling here introduced to the members Mr. Charles William James, manager of the New York Oxygen Company.

Mr. James illustrated the use of the steel cylinders or bottles containing oxygen and hydrogen gas, and explained at length the process by which oxygen was made by the company he represented. He was materially aided in this by diagrams thrown upon the screen.

Mr. James stated that the safety devices used in connection with these cylinders were such as to practically preclude all possibility of accident; as every cylinder was tested at a pressure of two tons to the square inch. The consumption of gas for an ordinary single light lantern would average five to seven cubic feet per hour. The cylinders exhibited contained forty cubic feet.

Mr. Cheyney exhibited a simple device which he had made, modelled after the new tele-photographic lenses. Various slides from negatives with this apparatus were shown upon the screen.

Mr. John R. Clemons showed several plain silver prints toned in ordinary gold solution with the addition of the chloride of aluminum. The result was a peculiar warm brown tone of great beauty, with very clear whites.*

Adjourned.

ROBERT S. REDFIELD, *Secretary.*

The World's Fair.—It is the intention to have one room in Delaware's Exposition building fitted up in colonial style, with hangings, pictures and furniture of that period. Among the exhibits in this room it is proposed to show models of three celebrated colonial churches—the "Old Swedes' Church" in Wilmington, founded in 1699; Barratt's Chapel near Frederica, which was founded in 1780, and where, in November, 1784, Rev. Dr. Thomas Coke and Francis Asbury, afterward first Methodist Bishop in America, met with several others and planned the organization of the Methodist church in this country; and Christ Church, Broad Creek.

* Vide formulæ page 181, ibid.

REGULATIONS

ADOPTED GOVERNING THE USE OF THE ROOMS AND PROPERTY OF THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

The use of the property of the Society is free to all Active and Life Members, with only such restrictions as are deemed necessary to preserve it from injury and waste, to lessen the drawbacks inseparable from its common use, and to ensure general comfort and convenience.

1. Loud talking, disturbing noises and unnecessary conversation with those at work or desirous of reading, must be avoided.

2. No books, pictures, or other property of the Society shall be taken from the rooms. Everything must be returned to its proper place after use. The books and periodicals belonging to the Society must not be used in the work-rooms.

3. Members must not loan the keys of the rooms or building, nor allow access to persons not members, unless in their company. All keys issued by the Society must be returned before the resignation of the holder can be accepted.

4 Visiting members of other kindred societies may have the use of the rooms, for a limited period, on presentation of proper credentials to the House Committee.

5. Members must keep all personal property in their lockers. Rubbish and worthless material must be deposited in the places provided for that purpose.

6. Members are expected to be neat and cleanly while at work, avoiding spilling or splashing of water or chemicals, and defacing or injuring any property of the Society. All dishes and vessels must be thoroughly cleansed after use, and returned to their proper places. Hypo, or other similar substances, must only be used in the vessels and places designated for such purpose.

7. The greatest care must be exercised not to raise the window sashes in developing-rooms so as to admit white light, while others are at work, or have sensitive material exposed, without full warning being given.

8. The extravagant use of gas must be avoided, and the last person in the rooms at night is expected to see that all gas and water is turned off, and doors and windows securely closed.

9. Members will be held responsible for any damage resulting from carelessness, and must pay for such repairs or replacement as may be necessary.

10. No smoking is permitted during the formal meetings of the Society.

11. The use of the rooms for games, or any other purposes not in accordance with the Charter and By-Laws, is prohibited.

12. Competitive Exhibitions before the Society, with the intention of favoring any individual, firm, or article, to the detriment of others, are forbidden.

13. The rooms, apparatus, or facilities of the Society are not to be used for commercial purposes.

14. Plates, prints, etc., left exposed by their owners during washing, drying, or other processes, must not be handled or disturbed.

15. The use of special apparatus belonging to the Society will be subject to such rules as may be deemed necessary by the Committee in charge thereof.

16. All reasonable care will be taken to prevent loss of, or damage to, articles stored in lockers, but the Society assumes no responsibility in the matter.

By order of THE HOUSE COMMITTEE.

Approved by the Board of Directors, March 3d, 1892.

NOTE.—The Janitor is on duty for the Society on weekdays, from 8 to 10 A.M., 4 to 6 P.M. He will render members such assistance, during these hours, as will not interfere with his regular work of keeping the rooms in order.

Stained Negatives.—The *Scientific American* recommends the following formula for removing silver stains from negatives, viz.:

If the negative is varnished, remove the latter by soaking in alcohol for a few minutes, then apply the following to the stained part:

A. Sulpho-cyanide of ammonia	½ dram.
Water	1 oz.
B. Nitric acid	½ dram.
Water	1 oz.

Mix A and B, and apply. A fresh solution should be made for each negative. Follow by washing and applying a saturated solution of chrome alum.

Titian preferred to paint beautiful women at thirty. Rubens readily went up to forty, and even beyond. Van Dyck did not recognize age at all; with him art was free. He held a sovereign contempt for time. Rembrandt did more; by a gesture, a word, a look, a smile, he banished all age.

In the Twilight Hour.

IMPROVE opportunities.

DO GOOD if you expect to receive it.

NEVER regret what is irretrievably lost.

HE THAT has no charity merits no mercy.

HE IS a slave that cannot command himself.

ALL between the cradle and coffin is uncertainty.

ANGER begins with folly and ends with repentance.

A FINE coat may cover a fool, but it never conceals one.

HE HATH a good judgment that relieth not wholly on his own.

BE civil and obliging to all; it costs nothing, and is worth much.

A WISE man will make more opportunities than he finds.

HE THAT thinks his business below him will always be above his business.

TO ABANDON a friend for a single error evinces a cold heart and weak judgment.

IF THERE is any person for whom you feel a dislike, that is the person of whom you ought never to speak.

TREAT your customers as your friends by serving them in the best manner, and never let them be deceived or disappointed.

CHERISH patience as your favorite virtue. Always keep it about you. You will find use for it oftener than for all the rest.

FEW things are impracticable in themselves, and it is for want of application, rather than of means, that men fail of success.

TRUE friendship increases as life's end approaches, just as the shadow lengthens with every degree the sun declines towards its setting.

IN A single century four thousand millions of human beings appear on the face of the earth, act their many parts, and sink into the grave.

IT WAS Sir Robert Peel who said: "I never knew a man to escape failure, in either body or mind, who worked seven days in the week."

THERE never did, and never will, exist anything permanently noble and excellent in any one who is a stranger to the exercise of resolute self-denial.

HARMLESS mirth is the best cordial against the consumption of the spirits; wherefore, jesting is not unlawful if it tresnasseth not in quantity, quality or reason.

MANY a man lives a burden to the earth; but a good book is the precious life-blood of a master-spirit, embalmed and treasured up on purpose to a life beyond life.—*Milton.*

GENTILITY is neither in birth, manner, nor fashion, but in the mind. A high sense of honor, a determination never to take a mean advantage of another, an adherence to truth, delicacy and politeness towards those with whom you have dealings, are the essential characteristics of a gentleman.

THE GRAVE—It buries every error, covers every defect, extinguishes every resentment. From its peaceful bosom spring none but fond regrets and tender recollections. Who can look down upon the grave of an enemy and not feel a compunctious throb that he should have warred with a poor handful of dust that lies mouldering before him.—*Irving.*

Literary and Business Notes.

COPY FOR PHOTO-ENGRAVING.—Carl Schraubstadter, Jr. St. Louis, Mo.

A small pamphlet giving directions for making black and white copy, such as is requisite for the direct reproduction processes. It is concise and handy, and should be read by every one who is interested in making sketches for photo-mechanical reproduction.

ANLEITUNG ZUR PHOTOGRAPHIE, by Major G. Pizzighelli. William Knapp: Halle a. S.

The fourth edition of this well-known German hand-book. The book is well printed, and consists of 280 pages with 166 illustrations printed in the text. It is of a convenient size, and well bound, and fully answers the purpose set forth on the title, viz.—"A guide or introduction to Photography."

PHOTO-ENGRAVING, by Carl Schraubstadter, Jr. St. Louis, Mo.

A practical manual upon Photo-engraving. Strictly speaking the work is a practical guide to zinc etching by a practical worker. Every department, even the necessary arrangement and equipment of the shop, is fully treated and illustrated. The half-tone and various gelatine processes are also described. The price of the work, handsomely bound in cloth, is only three dollars.

PICTORIAL EFFECT IN PHOTOGRAPHY. H. P. Robinson, Tunbridge Wells, England. Scovill & Adams, New York. By direct arrangement with the Author—This is the third Edition of an old acquaintance.

Mr. Robinson is so well known as a photographic writer, that we do not suppose there is a photographic library in the country wherein he is not represented. All the subjects treated in the present volume are of every-day, practical importance to the intelligent photographer. The book which forms No. 30 of the Scovill photographic series should be in the hands of every professional and aspiring amateur who is not already supplied.

PHOTOGRAPHIC MOSAICS.—Edward L. Wilson: New York, 1892.

Being the twenty-eighth year of the publication of this Photographic Annual. As usual it contains a number of excellent papers by different writers, with numerous half-tone illustrations, in addition to the introduction by the Editor relative to the "Progress of Photography" during the past year. We regret that the paper and make-up of the present volume is hardly up to the standard, which prevents the practical use of the book which it deserves.

LANTERN SLIDES AND HOW TO MAKE THEM, by A. R. Dresser, M.S.L.—Second Edition (Tenth Thousand). Revised by the Author. New York, Scovill & Adams Co.

A handy little volume of 56 pages, intended mainly for beginners. The Author gives instructions in the simplest method of making Lantern Slides upon the Commercial transparency dry plate, in a manner comprehensive to the merest tyro in photography. The work, in neat paper cover and envelope, is sent post-paid to any address for 25 cents. A word to the wise is sufficient.

THE OPTICS OF PHOTOGRAPHY AND PHOTOGRAPHIC LENSES. J. Traill Taylor (Editor of The British Journal of Photography). London. E. & H. T. Anthony, American agents.

A practical treatise upon the subjects indicated upon the title-page—intended for the users of photographic lenses. Technical and scientific terms are avoided, so that the every-day worker can thoroughly understand its contents as he proceeds. A thorough study of this little volume, which is fully illustrated with cuts and diagrams, will enable the worker to more fully grasp the possibilities of his objective, whereby he will be enabled to produce far better results, with less trouble and outlay than heretofore. The book furnishes brains—which are needed under the focusing cloth as well as in the dark-room.

PHOTOGRAPHIC REVIEW OF REVIEWS, 3 St. Bride Street, Ludgate Circus, London, E. C. Edited by Walter D. Welford.

This is the latest venture in the English photographic field. The review shows care and taste in the editorial as well as typographical departments, the paper is good, type clear and plain, and the illustrations are certainly ahead of anything we have thus far seen in a British magazine. The Editor in his salutatory states "that personalities will be strictly avoided," and that his leaders "will not, as a rule, be upon abstruse subjects, nor upon such general subjects as 'Art and Photography,' but forcible, common-sense discussions of the questions of the day." In our opinion, nothing, at the present day, will tend more to the success of a photographic periodical than implied in the above announcement, viz.,—less vagaries about "Art," and more photographic common-sense. The editor and publishers of the new venture have our best wishes.

PHOTOGRAPHISCHE PROCESSE—für Amateure and Touristen. Von G. Pizzighelli, K. und K. Major in Genie Stab. Printed and Published by Wilhelm Knapp, Halle a. S., Germany. Part second of the Handbuch der Photographie.

This is the second edition of Pizzighelli's exhaustive work, brought down to date, and consists of 518 pages with 207 illustrations printed in the text. The present volume treats upon the Photographic processes, with formulas and directions for everything. From the self-preparation of the gelatine emulsion to the burnishing of the finished print, every department, old and new, of the dry plate process is exhaustively treated, both theoretical as well as practical. In the treatment upon the failures in the various manipulations, the possible cause is always given in connection with the remedy, so that a reoccurrence of the difficulty may be avoided. The book is practical in every department, and will unquestionably prove indispensable to all photographic students who are conversant with the German language.

OUR FRONTISPIECE.

Spring Flowers, a series of child studies by A. McFarland, of Mansfield, Tioga County, Penna. The negatives are all of equal excellence, and taken from the every-day work of the artist. The prints are upon the Philadelphia Alpha Aristotype Paper.

J. W. Williams, well known as one of the best traveling salesmen in the photographic supply trade, and who for a number of years past so ably represented the house of Thomas H. McCollin & Co., of Philadelphia, has severed his connection with the latter establishment, to take a position with the Eastman Company, of Rochester. Our best wishes go with brother Williams, and we extend our congratulations to the Eastman Company upon their acquisition.

Our eminent townsman, Mr. Fred. E. Ives, has been invited to deliver two lectures on color photography before the Royal Institute of Great Britain during the coming month of May.